

Proposal to Encode the Jenticha Script in ISO/IEC 10646

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1 Introduction

This is a preliminary proposal to encode the Jenticha script in the Universal Character Set (ISO/IEC 10646). It replaces the preliminary proposal submitted for encoding the script (N3962 L2/10-466R). Changes made to the proposal include the use of English names for signs, the addition of a new combining sign, and more general detail about the proposed characters. Code points have been revised to reflect changes to the allocation for the script in the Unicode Roadmap.

2 Background

2.1 Overview

Jenticha is a script used for writing Sunuwar (ISO 639-3: *suz*), a Kiranti language of the Tibeto-Burman family that is spoken in Sikkim, India and eastern Nepal. Sunuwar is spoken by 40,000 persons in Nepal. The number of speakers of the language in Sikkim is unknown because data for Sunuwar is absent from the 2001 Census of India. However, Sunuwar was recognized as an official language of Sikkim in 1996. Jenticha is a recognized script in Sikkim. Devanagari is also used for writing Sunuwar and is the most commonly used script for the language.

Sunuwar (सुनुवार *sunuvāra*), alternately spelled ‘Sunwar’, is also known by the name ‘Mukhiya’ (मुखिया *mukhiyā*). Both are Nepali exonyms for the language and its speakers. The autonym is कौँच *kōica*, which is normalized as ‘Kōits’. The language is called कौँच लो *kōica lo* ‘Kōits Lo’ or किराँती-कौँच *kirāñī-kōica* ‘Kiranti-Kōits’. The name ‘Kōits’ is also romanized as ‘Koinch’, ‘Koincha’, ‘Koints’, etc.

The script was developed by Krishna Bahadur Jenticha (1926–1991) in 1942. It is known indigenously as जें:तिच ब्रे:से *jētica brese*, ‘Jenticha Brese’. The script is also called कौँच ब्रे:से *kōica brese* ‘Kōits Brese’, or the ‘Kōits script’; ‘brese’, or script, is also romanized as ‘brehs’ or ‘blehs’, ie. ‘Koinch Brehs’. The script is referred to here as ‘Jenticha’. It has no genetic relationship to other writing systems. However, some of its letters resemble those of other scripts, such as Limbu and Latin.

2.2 Usage

- *Educational Materials* Primary educational materials for teaching Sunuwar and Jenticha are published by Kōic Bu in Sikkim. Examples of script primers are ཁྱེད་ཀྱི་སྐད་ཀྱི་རྒྱུ་རྩལ་ལོ་རྒྱུ་ *Kirāṭī-Kōica Blesethekā* (2003) and ཁྱེད་ཀྱི་སྐད་ཀྱི་རྒྱུ་རྩལ་ལོ་རྒྱུ་ *Kōicā The:si Khyōpat* (2004); see Figure 11. The Department of Education of the Government of Sikkim is planning to prepare textbooks in the script for primary-level education.
- *Literary Works* Anthologies of Sunuwar poetry are printed in the script.
- *Historical Records* Histories of the Sunuwar communities, known as *vamśāvalī*, were written in Jenticha beginning in the 1940s.
- *Newspapers* A Sunuwar (‘Mukhiya’) edition of the *Sikkim Herald* (འབྲུག་གི་ཡུན་མཚན་ལོ་རྒྱུ་) is produced in Jenticha. The newspaper was first published in April 2002 and maintains an active circulation. The first edition was hand-written by Lāl-Śyāmākārelu Rāpacā, with subsequent editions written by Balarām Sunuwār (see Figure 9). More recent editions are printed in digitized type (see Figure 10).
- *Linguistic Works* The script is used in grammars of Sunuwar, ie. *Elementary Grammar of Kiranti-Sunuwar* by Kamalādevī Nāvacā-Mukhiyā, Raghuvirā Rujicā-Mukhiya, and Lāla Rāpacā (Sikkim: Kōica Bu, 2003).
- *Government Records* Proceedings of the Sikkim legislative assembly are translated into Sunuwar using the script.
- *Academic Works* The script is used in several scholarly works on the Sunuwar language and it is also the focus of scholarly attention (cf. Rāpacā 2009).
- *Ephemera* The Sikkim Sunuwar Mukhia Koinchbu (SSMK) produces and distributes calendars using Jenticha (see Figure 13 and 14).
- *Digital Resources* Jenticha has been adapted for use in digital media. A digitized font for the script named ‘Kirat1’ was developed by Shyan Kirat Rai. It is based upon a non-Unicode encoding and is mapped to Latin letters. The font is used for publishing the *Sikkim Herald* (see Figure 10) and by Rāpacā in the charts and examples shown in figures 7–12. Another effort is the Jenticha font used in this document. This font was designed by the present author and will be further developed to support the Unicode implementation for Jenticha.

3 Implementation Details

The script is named ‘Jenticha’.

3.2 Character Repertoire

The proposed characters are intended for representing historical and current forms of Jenticha. The set consists of 45 characters: 6 vowel letters, 25 consonant letters, 4 signs, and 10 digits. A code chart and names list is given in Figure 1.

3.3 Structure

Modern Jenticha is an alphabetic writing system with alphasyllabic features. The early version of the script is a pure alphabet. Both forms of the script are written from left to right. The modern form of Jenticha is a superset that encompasses the character repertoire and orthography of the early script. The proposed script is based upon modern Jenticha.

Jenticha should be implemented according to the *virāma* model used for Brahmi-based scripts. This encoding model offers the most appropriate means for representing consonant conjuncts written in the script.

3.4 Vowels

Vowels are represented using individual letters, of which there are six:

॑	A	/a/	अ	†	I	/i/	इ	±	E	/e/	ए
॒	AA	/a:/	आ	॒	U	/u/	उ	0	o	/o/	ओ

In the early form of the alphabet, the letter ॑ A was used for writing /a/ and /a:/ (see figures 3 and 5). The letter ॒ AA was later introduced as a unique character for /a:/.

The diphthongs of Sunuwar are written as digraphs using vowel letters:

/ai/	॑†	॑ A + † I	ऐ	/eu/	±॒	± E + ॒ U	एउ	/oi/	0†	0 o + † I	ओइ
/au/	॒॑	॑ A + ॒ U	औ	/ui/	॒†	॒ U + † I	उइ				

3.5 Vowel Length

Vowel length is indicated using the sign ॐ: VOWEL LENGTH MARK, which is called *gyosh* in Sunuwar. The length mark is used in modern Jenticha. Vowel length is not distinguished in writing in the older alphabetic script.

3.6 Virāma

The Jenticha ॐ VIRAMA behaves similar to the ॐ VIRAMA of Devanagari. It is used in modern Jenticha and is not attested in early forms of the script.

3.7 Consonants

There are 25 consonant letters:

𑌕	KA	/k/	क	𑌖	PA	/p/	प
𑌗	KHA	/k ^h /	ख	𑌘	PHA	/p ^h /	फ
𑌙	GA	/g/	ग	𑌚	BA	/b/	ब
𑌛	NGA	/ŋ/	ङ	𑌜	MA	/m/	म
𑌝	GLOTTAL STOP	/ʔ/	अ्	𑌞	YA	/y/	य
𑌟	CA	/tʃ/	च	𑌠	RA	/r/, [ɽ]	र
𑌡	JA	/dʒ/	ज	𑌢	LA	/l/, [ɭ]	ल
𑌣	TTA	/t/	ट	𑌤	VA	/v/	व
𑌥	TTHA	/t ^h /	ठ	𑌦	SHA	/ʃ/	श, ष
𑌧	TA	/t/	त	𑌨	SA	/s/	स
𑌩	THA	/t ^h /	थ	𑌪	HA	/h/	ह
𑌫	DA	/d/	द, ड	𑌬	HHA	/ɦ/	व्हो, हव
𑌭	NA	/n/	न, ण				

In modern Jenticha, each consonant letter, except for 𑌝 GLOTTAL STOP, bears the inherent vowel /a/, which corresponds to the letter 𑌖 A. The inherent vowel is changed by writing a vowel letter after the consonant, eg. 𑌕 /ka/, 𑌕𑌖 /ka:/, etc. It is silenced by writing 𑌐 VIRAMA under a consonant, eg. <𑌕 KA + 𑌐> → <𑌕> /k/.

In early Jenticha, consonant letters are purely alphabetic and do not have an inherent vowel. The sequence <𑌕 KA + 𑌖 A> represents both /ka/ and /ka:/.

3.8 Consonant Conjuncts

Consonant conjuncts are represented differently in the early and modern forms of Jenticha. In early Jenticha, conjuncts are written as a linear sequence of consonant letters without VIRAMA or special rendering. In modern orthography, the default representation for conjuncts is with a visible VIRAMA. The encoded representation is <C₁ + 𑌐 VIRAMA + C₂>.

In modern Jenticha orthography there are alternate methods for representing conjuncts. It may be necessary to represent both default and alternate forms in plain text. In order to do so, the 𑌐 U+200D ZERO WIDTH JOINER should be used to force the alternate form: <C₁ + VIRAMA + 𑌐 ZWJ + C₂>.

1. *Half-Forms* The following consonant letters may be written using half-forms (pre-base forms) when they appear as C₁ in a conjunct:

	Regular form	Default bare form	Half-form	Devanagari half-form
CA	<	𑌐	<	च
MA	𑌜	𑌜	𑌜	म
SA	𑌨	𑌨	𑌨	स

2. *Above-Base Forms* In modern orthography, the letter 𑌠 RA has an alternate contextual form when it occurs as C₁ in conjuncts. The default behavior for RA as C₁ is with visible *virāma*: 𑌠< rca. The alternate is the form 𑌠 *sangkirs*, which is written above C₂: 𑌠< rca. It corresponds to *repha* in Devanagari. The encoded representation for *sangkirs* is <RA + VIRAMA + 𑌐 ZWJ + C>.

3.9 Geminate Consonants

There are no formal rules for writing geminate consonants. In early Jenticha, a consonant letter is written twice. In the modern script, geminate consonants should be treated as a conjunct with the first consonant marked with a visible VIRAMA.

3.10 Nasalization

Nasalization is indicated by $\overset{\circ}{\text{C}}$ CANDRABINDU, which is called *taslathenk* in Sunuwar. This sign corresponds to $\overset{\circ}{\text{C}}$ CANDRABINDU in Devanagari.

3.11 Aspiration

Early Jenticha did not have unique letters for the aspirated consonants /k^h/, /t^h/, /tʰ/, /p^h/ (see Figure 5). Aspiration was indicated by writing 𑖦 HA after an unaspirated consonant letter, eg. <𑖧 PA + 𑖦 HA> → <𑖧𑖦> /p^h/. The modern script has independent letters for the four aspirated consonants.

3.12 Trill Mark

The $\overset{\circ}{\text{L}}$ TRILL MARK represents [l̥], which is an allophone of /l/ when it occurs as C₂ in a consonant conjunct with a velar or labial consonant as C₁. There is no distinct Jenticha letter for this sound. The mark is called *sangrums* and is used only in modern Jenticha. Use of the TRILL MARK is optional. The word 𑖧𑖦𑖦𑖦 *blese* may be written using either 𑖦 RA or 𑖦 LA; eg. 𑖧𑖦𑖦𑖦 *brese*, 𑖧𑖦𑖦𑖦 *blese*. In Devanagari orthography, [l̥] is represented using र RA, ल LA, or ड DA. Valid sequences are:

𑖦 KA	+	$\overset{\circ}{\text{L}}$	→	𑖦 /k/	कड, क्र, कल	𑖧 PA	+	$\overset{\circ}{\text{L}}$	→	𑖧 /p/	पड, प्र, पल
𑖦 KHA	+	$\overset{\circ}{\text{L}}$	→	𑖦 /k ^h /	खड, ख्र, खल	𑖦 PHA	+	$\overset{\circ}{\text{L}}$	→	𑖦 /p ^h /	फड, फ्र, फल
𑖧 GA	+	$\overset{\circ}{\text{L}}$	→	𑖧 /g/	गड, ग्र, गल	𑖦 BA	+	$\overset{\circ}{\text{L}}$	→	𑖦 /b/	बड, ब्र, बल

3.13 Digits

Digits represent decimal numbers: 𑖦 ZERO, 𑖦 ONE, 𑖦 TWO, 𑖦 THREE, 𑖦 FOUR, 𑖦 FIVE, 𑖦 SIX, 𑖦 SEVEN, 𑖦 EIGHT, 𑖦 NINE.

3.14 Punctuation

There are no script-specific punctuation marks. Latin marks, such as periods and commas, are used.

3.15 Collation

The sort order follows the encoded order.

3.16 Line-Breaking

All characters have line-breaking rules similar to that of Devanagari.

3.17 Ordering

A letter with two combining marks is common in Jenticha, eg. <ᳵᳶ> CANDRABINDU and VOWEL LENGTH MARK. In such cases, CANDRABINDU should be ordered first. Rendering engines should recognize sequences of combining marks as valid.

3.18 Character Properties

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116D0;JENTICHA LETTER A;Lo;0;L;;;;N;;;;;
116D1;JENTICHA LETTER AA;Lo;0;L;;;;N;;;;;
116D2;JENTICHA LETTER I;Lo;0;L;;;;N;;;;;
116D3;JENTICHA LETTER U;Lo;0;L;;;;N;;;;;
116D4;JENTICHA LETTER E;Lo;0;L;;;;N;;;;;
116D5;JENTICHA LETTER O;Lo;0;L;;;;N;;;;;
116D6;JENTICHA LETTER KA;Lo;0;L;;;;N;;;;;
116D7;JENTICHA LETTER KHA;Lo;0;L;;;;N;;;;;
116D8;JENTICHA LETTER GA;Lo;0;L;;;;N;;;;;
116D9;JENTICHA LETTER NGA;Lo;0;L;;;;N;;;;;
116DA;JENTICHA LETTER CA;Lo;0;L;;;;N;;;;;
116DB;JENTICHA LETTER JA;Lo;0;L;;;;N;;;;;
116DC;JENTICHA LETTER TTA;Lo;0;L;;;;N;;;;;
116DD;JENTICHA LETTER TTHA;Lo;0;L;;;;N;;;;;
116DE;JENTICHA LETTER TA;Lo;0;L;;;;N;;;;;
116DF;JENTICHA LETTER THA;Lo;0;L;;;;N;;;;;
116E0;JENTICHA LETTER DA;Lo;0;L;;;;N;;;;;
116E1;JENTICHA LETTER NA;Lo;0;L;;;;N;;;;;
116E2;JENTICHA LETTER PA;Lo;0;L;;;;N;;;;;
116E3;JENTICHA LETTER PHA;Lo;0;L;;;;N;;;;;
116E4;JENTICHA LETTER BA;Lo;0;L;;;;N;;;;;
116E5;JENTICHA LETTER MA;Lo;0;L;;;;N;;;;;
116E6;JENTICHA LETTER YA;Lo;0;L;;;;N;;;;;
116E7;JENTICHA LETTER RA;Lo;0;L;;;;N;;;;;
116E8;JENTICHA LETTER LA;Lo;0;L;;;;N;;;;;
116E9;JENTICHA LETTER VA;Lo;0;L;;;;N;;;;;
116EA;JENTICHA LETTER SHA;Lo;0;L;;;;N;;;;;
116EB;JENTICHA LETTER SA;Lo;0;L;;;;N;;;;;
116EC;JENTICHA LETTER HA;Lo;0;L;;;;N;;;;;
116ED;JENTICHA LETTER HHA;Lo;0;L;;;;N;;;;;
116EE;JENTICHA LETTER GLOTTAL STOP;Lo;0;L;;;;N;;;;;
116EF;JENTICHA SIGN VIRAMA;Mn;9;NSM;;;;N;;;;;
116F0;JENTICHA SIGN CANDRABINDU;Mn;0;NSM;;;;N;;;;;
116F1;JENTICHA VOWEL LENGTH MARK;Mc;0;L;;;;N;;;;;
116F2;JENTICHA TRILL MARK;Mn;0;NSM;;;;N;;;;;
116F6;JENTICHA DIGIT ZERO;Nd;0;L;;0;0;0;N;;;;;
116F7;JENTICHA DIGIT ONE;Nd;0;L;;1;1;1;N;;;;;
116F8;JENTICHA DIGIT TWO;Nd;0;L;;2;2;2;N;;;;;
116F9;JENTICHA DIGIT THREE;Nd;0;L;;3;3;3;N;;;;;
116FA;JENTICHA DIGIT FOUR;Nd;0;L;;4;4;4;N;;;;;
116FB;JENTICHA DIGIT FIVE;Nd;0;L;;5;5;5;N;;;;;
116FC;JENTICHA DIGIT SIX;Nd;0;L;;6;6;6;N;;;;;
116FD;JENTICHA DIGIT SEVEN;Nd;0;L;;7;7;7;N;;;;;
116FE;JENTICHA DIGIT EIGHT;Nd;0;L;;8;8;8;N;;;;;
116FF;JENTICHA DIGIT NINE;Nd;0;L;;9;9;9;N;;;;;

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3.19 ‘Confusable’ Characters

Below is a basic list of Jenticha characters that are ‘confusable’ with those encoded in other script blocks:

116D1 JENTICHA LETTER AA	; 1900 LIMBU VOWEL-CARRIER LETTER
116D5 JENTICHA LETTER O	; 004F LATIN CAPITAL LETTER O
116DC JENTICHA LETTER TTA	; 1916 LIMBU LETTER RA
116DD JENTICHA LETTER TTHA	; 190F LIMBU LETTER NA
116DF JENTICHA LETTER THA	; 190C LIMBU LETTER THA
116E3 JENTICHA LETTER PHA	; 03B1 GREEK SMALL LETTER ALPHA
116EB JENTICHA LETTER SA	; 1919 LIMBU LETTER SHA
116EF JENTICHA SIGN VIRAMA	; 0332 COMBINING LOW LINE
116F1 JENTICHA VOWEL LENGTH MARK	; 0903 DEVANAGARI SIGN VISARGA
116F7 JENTICHA DIGIT ONE	; 0964 DEVANAGARI DANDA
116FE JENTICHA DIGIT EIGHT	; 0058 LATIN CAPITAL LETTER X

4 References

- Borchers, Dörte. 2008. *A Grammar of Sunwar: Descriptive Grammar, Paradigms, Texts and Glossary*. Tibetan Studies Library; Languages of the Greater Himalayan Region, vol. 5/7. Leiden: Brill.
- kiratsunuwar.org.np. (n.d.) “Summary of K. B. Sunuwar”. Written by Shankar Sunuwar. Source: Purna Bahadur Sunuwar. http://kiratsunuwar.org.np/index.php?option=com_content&view=article&id=8:summary-of-kb-sunuwar&catid=3:articles&Itemid=19. Accessed January 2011.
- Mukhia, Kamaladevi, and Raghubir Mukhia, and Lal Rapaca. 2004. ཁྲོམ་རྩུ་མེད་ཀྱི་འཇམ་མཁའ་ལྷ་མོ་ལྷ་མོ་ [= *Elementary Reader of Sunuwar*]. 1st ed. Sikkim: Kōica Bu.
- Pandey, Anshuman. 2011a. “Preliminary Proposal to Encode the Tikamuli Script in ISO/IEC 10646” (N3963 L2/10-465R). January 25, 2011. <http://std.dkuug.dk/JTC1/SC2/WG2/docs/n3963.pdf>
- . 2011b. “Preliminary Proposal to Encode the Jenticha Script in ISO/IEC 10646” (N3962 L2/10-466R). January 25, 2011. <http://std.dkuug.dk/JTC1/SC2/WG2/docs/n3962.pdf>
- रापचा, लाल-श्याङ्करेलु [Rāpacā, Lāl-Śyāmkārelu]. 2009. नेपालको आदिवासी किराँती जाति सेरोफेरो : ओल्लो, माझ र पल्लो किराँत. काठमाडौं : किरांतविज्ञान अध्ययन संस्थान.
- Subba, Jash Raj. 2008. *The Evolution of Man and the Modern Society in Mountainous Sikkim*. Delhi: Gyan Publishing House.

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	116D	116E	116F
0	𑌀 116D0	𑌁 116E0	𑌂 116F0
1	𑌃 116D1	𑌄 116E1	𑌅 116F1
2	𑌆 116D2	𑌇 116E2	𑌈 116F2
3	𑌉 116D3	𑌊 116E3	
4	𑌋 116D4	𑌌 116E4	
5	𑌍 116D5	𑌎 116E5	
6	𑌏 116D6	𑌐 116E6	𑌑 116F6
7	𑌒 116D7	𑌓 116E7	𑌔 116F7
8	𑌕 116D8	𑌖 116E8	𑌗 116F8
9	𑌘 116D9	𑌙 116E9	𑌚 116F9
A	𑌛 116DA	𑌜 116EA	𑌝 116FA
B	𑌞 116DB	𑌟 116EB	𑌠 116FB
C	𑌡 116DC	𑌢 116EC	𑌣 116FC
D	𑌦 116DD	𑌧 116ED	𑌨 116FD
E	𑌩 116DE	𑌪 116EE	𑌫 116FE
F	𑌭 116DF	𑌮 116EF	𑌯 116FF

Vowels

116D0	𑌀	JENTICHA LETTER A
116D1	𑌃	JENTICHA LETTER AA
116D2	𑌆	JENTICHA LETTER I
116D3	𑌉	JENTICHA LETTER U
116D4	𑌋	JENTICHA LETTER E
116D5	𑌍	JENTICHA LETTER O

Consonants

116D6	𑌏	JENTICHA LETTER KA
116D7	𑌒	JENTICHA LETTER KHA
116D8	𑌕	JENTICHA LETTER GA
116D9	𑌘	JENTICHA LETTER NGA
116DA	𑌛	JENTICHA LETTER CA
116DB	𑌞	JENTICHA LETTER JA
116DC	𑌡	JENTICHA LETTER TTA
116DD	𑌦	JENTICHA LETTER TTHA
116DE	𑌩	JENTICHA LETTER TA
116DF	𑌭	JENTICHA LETTER THA
116E0	𑌁	JENTICHA LETTER DA
116E1	𑌄	JENTICHA LETTER NA
116E2	𑌇	JENTICHA LETTER PA
116E3	𑌊	JENTICHA LETTER PHA
116E4	𑌌	JENTICHA LETTER BA
116E5	𑌎	JENTICHA LETTER MA
116E6	𑌐	JENTICHA LETTER YA
116E7	𑌓	JENTICHA LETTER RA
116E8	𑌖	JENTICHA LETTER LA
116E9	𑌙	JENTICHA LETTER VA
116EA	𑌜	JENTICHA LETTER SHA
116EB	𑌟	JENTICHA LETTER SA
116EC	𑌢	JENTICHA LETTER HA
116ED	𑌧	JENTICHA LETTER HHA
116EE	𑌪	JENTICHA LETTER GLOTTAL STOP

Various signs

116EF	𑌮	JENTICHA SIGN VIRAMA = sangmilu, halant
116F0	𑌂	JENTICHA SIGN CANDRABINDU = taslathenk
116F1	𑌅	JENTICHA VOWEL LENGTH MARK = gyosh, dirghata
116F2	𑌈	JENTICHA TRILL MARK = sangrums

Digits

116F6	𑌑	JENTICHA DIGIT ZERO
116F7	𑌔	JENTICHA DIGIT ONE
116F8	𑌗	JENTICHA DIGIT TWO
116F9	𑌚	JENTICHA DIGIT THREE
116FA	𑌝	JENTICHA DIGIT FOUR
116FB	𑌠	JENTICHA DIGIT FIVE
116FC	𑌣	JENTICHA DIGIT SIX
116FD	𑌨	JENTICHA DIGIT SEVEN
116FE	𑌫	JENTICHA DIGIT EIGHT
116FF	𑌯	JENTICHA DIGIT NINE

Figure 1: Tentative code chart and nameslist for Jenticha.



Figure 2: Krishna Bahadur Jenticha (Sunuwar), the inventor of the Jenticha script (from kirat-sunuwar.org.np).

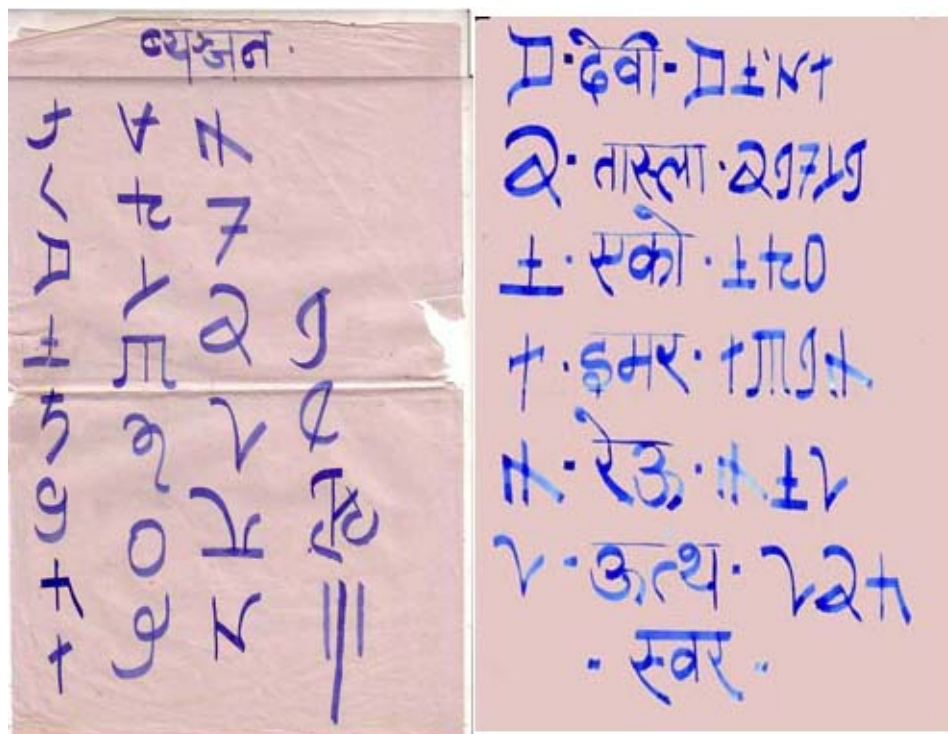


Figure 3: Early Jenticha letterforms (from kiratsunuwar.org.np). Notice the use of ङ A for writing both the inherent vowel /a/ and /a/; eg. in the words दास्तादास्त /tasla/ and इमरदास्त /imar/.

Sunwar	Deva nā- garī	Roman	Sunwar	Deva- nāgarī	Roman/ Arabic
ॠ	अ	a	ॡ	उ ऊ	u, ū
ॢ	ब	b	ॣ	व	v
।	च	c	॥	ळो	vho
॥	द	d	॥	य	y
१	ए	e, e	०	०	0
ॡ	ग	g	१	१	1
ॢ	ह	h	२	२	2
ॣ	इ ई	i, ī	३	३	3
।	ज	j	४	४	4
॥	क	k	५	५	5
१	ल	l	६	६	6
ॢ	म	m	७	७	7
ॣ	न	n	८	८	8
॥	ओ	o	९	९	9
१	प	p	१०	१०	10
ॢ	र ड	r, ḍ			
ॣ	स	s			
॥	त ट	t, ṭ			

Figure 4: A chart of early Jenticha (from Borchers 2008: 47).

॥२	= मुँह = बेला = TIME	1
॥२४	= लूज्ज-सेकन्ड = SECOND	2
॥०१७	= नौहँरस = मिनिट = MINUTE	3
२॥११	= तुलि = घन्टा = HOUR	4
॥११२	= नाँइत = दिन = DAY	5
॥१११०	= नुँफो = हफ्ता = WEEK	6
७१॥	= सिँन = मैना = MONTH	7
॥२११	= मुँडि = साल = YEAR	8
२१११	= तिरि = युग = CENTURY	9

Figure 5: A table showing names for chronological and calendrical terminology in Sunuwar (with Hindi equivalents) written in early Jenticha and Devanagari (from Borchers 2008: 48).

7.6 Sunuwar Script (Koinch Bress):

१ गण्ड	= (५) ॥ = कोह-बु
११ कड	= (५) ॥ = अरुना (५)
१११	= (५) ॥ = एको (५)

सौँइ CONSONANTS

११	= क (५)	= किक
१११	= ग (५)	= गगह
११११	= च (५)	= आफ-को
१११११	= प (५)	= पिप
११११११	= न (५)	= निल
१११११११	= ह (५)	= हा-शो
११११११११	= छ (५)	= छह-मी
१११११११११	= ङ (५)	= नौद वन विनुको काग पनि गर्ड
११११११११११	= झ (५)	= झु
१११११११११११	= ञ (५)	= मुह
११११११११११११	= ट (५)	= लोहवा
१११११११११११११	= ड (५)	= ओहव
११११११११११११११	= ण (५)	= रोले
१११११११११११११११	= त (५)	= बाह-ल्य
११११११११११११११११	= थ (५)	= वर
१११११११११११११११११	= द (५)	= दू-पडी

The Sunuwar language is written in Sunuwar script known as “Koinch Bress” or “Koinch Bnu” since its recognition as one of the official languages of Sikkim in 1997. Now, it is being taught upto primary level in the schools of Sikkim. The Sunuwars believe that Karna Bahadur Jehntich, an Army Officer engaged in army signals developed the script combining wireless signals and Brahmi script in the 19th century. The script

has three vowels and 16 consonants. A considerable effort is yet to be put in for further development of writing systems in this script (personal interview with many Sunuwars; Mukhia, R.B. in Lipi Sangalo (ed) by Limboo, R.B. 1998: 113-139)

Figure 6: A description of the early Jenticha script in a book about Sikkim (from Subba 2008: 95).

Consonants व्यन्जन वर्ण

क	ख	ग	ङ	घ
/k,क/	/k ^h ,ख/	/g,ग/	/ŋ,ङ/	/ʄ,अ/
च		झ		
/c,च/		/dz,झ/		
ट		ड		
/ʈ,ट/		/ʈ ^h ,ड/		
त	थ	द		ध
/t,त/	/t ^h ,थ/	/d,द/		/n,न/
प	फ	ब		भ
/p,प/	/p ^h ,फ/	/b,ब/		/m,म/
य	र	ल		व
/y,य/	/r,र/	/l,ल/		/w,व/
श		स		ह
/s,स/		/ʃ,श/		/h,ह/

Vowels स्वर वर्ण

१	२
/i,इ/	/u,उ/
३	०*
/ə,अ/	/o,आ/
४	५
/ɛ,ए/	/ā,आ/

*means optional and /ε, ā, i, u/ are also subject to have such lengthening phonetically only and all 6 vowels have nasal differences

(स्रोत: रापचा ई.२००१ए २००२डी)

Figure 7: Consonants and vowels of modern Jenticha (from Rāpacā 2009: 143).

किराँती-कोँइच ब्रे:स (जें:तिचा लिपि) को अडक लेखन विधिमा कुनै परिमार्जन नगरिएको सबै भन्दा बायाँ

୦	𑂔𑂗𑂢 <i>sum /sum/</i> ‘zero’ शुन्य
୧	𑂔𑂰 <i>kA /kā/</i> ‘one’ एक
୨	𑂔𑂰𑂩𑂰𑂩 <i>nizsi /nizsi/</i> ‘two’ दुई
୩	𑂔𑂰𑂩 sAN /sā/ ‘three’ तीन
୪	𑂔𑂰𑂩 le /le/ ‘four’ चार
୫	𑂔𑂰𑂩 <i>nga /ŋə/</i> ‘five’ पाँच
୬	𑂔𑂰𑂩𑂰 raku/raku/ ‘six’ ६
୭	<𑂔𑂰𑂩 <i>tsani /cəni/</i> ‘seven’ सात
୮	𑂔𑂰𑂩𑂰 <i>sasi /səsi/</i> ‘eight’ आठ
୯	𑂔𑂰𑂩 yAN /yā/ ‘nine’ नौ
୧୦	𑂔𑂰𑂩𑂰 gau /gəu/ ‘ten’ दश

Figure 8: Digits of modern Jenticha (from Rāpacā 2009: 144).



N. B. Sunwar
(Translator)
Sikkim Legislative
Assembly
25th
4th.

Chuba Busty
Padim .p.o. Nazim
East Sikkim.

P.H. 9734141782
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Postal Reg. No. WB/SKM/01/05

Issue No: 40

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† 72 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192 194 196 198 200 202 204 206 208 210 212 214 216 218 220 222 224 226 228 230 232 234 236 238 240 242 244 246 248 250 252 254 256 258 260 262 264 266 268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302 304 306 308 310 312 314 316 318 320 322 324 326 328 330 332 334 336 338 340 342 344 346 348 350 352 354 356 358 360 362 364 366 368 370 372 374 376 378 380 382 384 386 388 390 392 394 396 398 400 402 404 406 408 410 412 414 416 418 420 422 424 426 428 430 432 434 436 438 440 442 444 446 448 450 452 454 456 458 460 462 464 466 468 470 472 474 476 478 480 482 484 486 488 490 492 494 496 498 500 502 504 506 508 510 512 514 516 518 520 522 524 526 528 530 532 534 536 538 540 542 544 546 548 550 552 554 556 558 560 562 564 566 568 570 572 574 576 578 580 582 584 586 588 590 592 594 596 598 600 602 604 606 608 610 612 614 616 618 620 622 624 626 628 630 632 634 636 638 640 642 644 646 648 650 652 654 656 658 660 662 664 666 668 670 672 674 676 678 680 682 684 686 688 690 692 694 696 698 700 702 704 706 708 710 712 714 716 718 720 722 724 726 728 730 732 734 736 738 740 742 744 746 748 750 752 754 756 758 760 762 764 766 768 770 772 774 776 778 780 782 784 786 788 790 792 794 796 798 800 802 804 806 808 810 812 814 816 818 820 822 824 826 828 830 832 834 836 838 840 842 844 846 848 850 852 854 856 858 860 862 864 866 868 870 872 874 876 878 880 882 884 886 888 890 892 894 896 898 900 902 904 906 908 910 912 914 916 918 920 922 924 926 928 930 932 934 936 938 940 942 944 946 948 950 952 954 956 958 960 962 964 966 968 970 972 974 976 978 980 982 984 986 988 990 992 994 996 998 1000 1002 1004 1006 1008 1010 1012 1014 1016 1018 1020 1022 1024 1026 1028 1030 1032 1034 1036 1038 1040 1042 1044 1046 1048 1050 1052 1054 1056 1058 1060 1062 1064 1066 1068 1070 1072 1074 1076 1078 1080 1082 1084 1086 1088 1090 1092 1094 1096 1098 1100 1102 1104 1106 1108 1110 1112 1114 1116 1118 1120 1122 1124 1126 1128 1130 1132 1134 1136 1138 1140 1142 1144 1146 1148 1150 1152 1154 1156 1158 1160 1162 1164 1166 1168 1170 1172 1174 1176 1178 1180 1182 1184 1186 1188 1190 1192 1194 1196 1198 1200 1202 1204 1206 1208 1210 1212 1214 1216 1218 1220 1222 1224 1226 1228 1230 1232 1234 1236 1238 1240 1242 1244 1246 1248 1250 1252 1254 1256 1258 1260 1262 1264 1266 1268 1270 1272 1274 1276 1278 1280 1282 1284 1286 1288 1290 1292 1294 1296 1298 1300 1302 1304 1306 1308 1310 1312 1314 1316 1318 1320 1322 1324 1326 1328 1330 1332 1334 1336 1338 1340 1342 1344 1346 1348 1350 1352 1354 1356 1358 1360 1362 1364 1366 1368 1370 1372 1374 1376 1378 1380 1382 1384 1386 1388 1390 1392 1394 1396 1398 1400 1402 1404 1406 1408 1410 1412 1414 1416 1418 1420 1422 1424 1426 1428 1430 1432 1434 1436 1438 1440 1442 1444 1446 1448 1450 1452 1454 1456 1458 1460 1462 1464 1466 1468 1470 1472 1474 1476 1478 1480 1482 1484 1486 1488 1490 1492 1494 1496 1498 1500 1502 1504 1506 1508 1510 1512 1514 1516 1518 1520 1522 1524 1526 1528 1530 1532 1534 1536 1538 1540 1542 1544 1546 1548 1550 1552 1554 1556 1558 1560 1562 1564 1566 1568 1570 1572 1574 1576 1578 1580 1582 1584 1586 1588 1590 1592 1594 1596 1598 1600 1602 1604 1606 1608 1610 1612 1614 1616 1618 1620 1622 1624 1626 1628 1630 1632 1634 1636 1638 1640 1642 1644 1646 1648 1650 1652 1654 1656 1658 1660 1662 1664 1666 1668 1670 1672 1674 1676 1678 1680 1682 1684 1686 1688 1690 1692 1694 1696 1698 1700 1702 1704 1706 1708 1710 1712 1714 1716 1718 1720 1722 1724 1726 1728 1730 1732 1734 1736 1738 1740 1742 1744 1746 1748 1750 1752 1754 1756 1758 1760 1762 1764 1766 1768 1770 1772 1774 1776 1778 1780 1782 1784 1786 1788 1790 1792 1794 1796 1798 1800 1802 1804 1806 1808 1810 1812 1814 1816 1818 1820 1822 1824 1826 1828 1830 1832 1834 1836 1838 1840 1842 1844 1846 1848 1850 1852 1854 1856 1858 1860

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$12\pi^{\frac{1}{2}} \int_0^1 t^2 dt = 12\pi^{\frac{1}{2}} \cdot \frac{1}{3} = 4\pi^{\frac{1}{2}}$

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1982年12月 22日 星期一

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42101 52 AC21K2 52121 121 12101 52 AC21K2 52121 121

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[illegible]

5N2 121 123 125 127 129 131 133 135 137 139 141 143 145 147 149 151 153 155 157 159 161 163 165 167 169 171 173 175 177 179 181 183 185 187 189 191 193 195 197 199 201 203 205 207 209 211 213 215 217 219 221 223 225 227 229 231 233 235 237 239 241 243 245 247 249 251 253 255 257 259 261 263 265 267 269 271 273 275 277 279 281 283 285 287 289 291 293 295 297 299 301 303 305 307 309 311 313 315 317 319 321 323 325 327 329 331 333 335 337 339 341 343 345 347 349 351 353 355 357 359 361 363 365 367 369 371 373 375 377 379 381 383 385 387 389 391 393 395 397 399 401 403 405 407 409 411 413 415 417 419 421 423 425 427 429 431 433 435 437 439 441 443 445 447 449 451 453 455 457 459 461 463 465 467 469 471 473 475 477 479 481 483 485 487 489 491 493 495 497 499 501 503 505 507 509 511 513 515 517 519 521 523 525 527 529 531 533 535 537 539 541 543 545 547 549 551 553 555 557 559 561 563 565 567 569 571 573 575 577 579 581 583 585 587 589 591 593 595 597 599 601 603 605 607 609 611 613 615 617 619 621 623 625 627 629 631 633 635 637 639 641 643 645 647 649 651 653 655 657 659 661 663 665 667 669 671 673 675 677 679 681 683 685 687 689 691 693 695 697 699 701 703 705 707 709 711 713 715 717 719 721 723 725 727 729 731 733 735 737 739 741 743 745 747 749 751 753 755 757 759 761 763 765 767 769 771 773 775 777 779 781 783 785 787 789 791 793 795 797 799 801 803 805 807 809 811 813 815 817 819 821 823 825 827 829 831 833 835 837 839 841 843 845 847 849 851 853 855 857 859 861 863 865 867 869 871 873 875 877 879 881 883 885 887 889 891 893 895 897 899 901 903 905 907 909 911 913 915 917 919 921 923 925 927 929 931 933 935 937 939 941 943 945 947 949 951 953 955 957 959 961 963 965 967 969 971 973 975 977 979 981 983 985 987 989 991 993 995 997 999 1001 1003 1005 1007 1009 1011 1013 1015 1017 1019 1021 1023 1025 1027 1029 1031 1033 1035 1037 1039 1041 1043 1045 1047 1049 1051 1053 1055 1057 1059 1061 1063 1065 1067 1069 1071 1073 1075 1077 1079 1081 1083 1085 1087 1089 1091 1093 1095 1097 1099 1101 1103 1105 1107 1109 1111 1113 1115 1117 1119 1121 1123 1125 1127 1129 1131 1133 1135 1137 1139 1141 1143 1145 1147 1149 1151 1153 1155 1157 1159 1161 1163 1165 1167 1169 1171 1173 1175 1177 1179 1181 1183 1185 1187 1189 1191 1193 1195 1197 1199 1201 1203 1205 1207 1209 1211 1213 1215 1217 1219 1221 1223 1225 1227 1229 1231 1233 1235 1237 1239 1241 1243 1245 1247 1249 1251 1253 1255 1257 1259 1261 1263 1265 1267 1269 1271 1273 1275 1277 1279 1281 1283 1285 1287 1289 1291 1293 1295 1297 1299 1301 1303 1305 1307 1309 1311 1313 1315 1317 1319 1321 1323 1325 1327 1329 1331 1333 1335 1337 1339 1341 1343 1345 1347 1349 1351 1353 1355 1357 1359 1361 1363 1365 1367 1369 1371 1373 1375 1377 1379 1381 1383 1385 1387 1389 1391 1393 1395 1397 1399 1401 1403 1405 1407 1409 1411 1413 1415 1417 1419 1421 1423 1425 1427 1429 1431 1433 1435 1437 1439 1441 1443 1445 1447 1449 1451 1453 1455 1457 1459 1461 1463 1465 1467 1469 1471 1473 1475 1477 1479 1481 1483 1485 1487 1489 1491 1493 1495 1497 1499 1501 1503 1505 1507 1509 1511 1513 1515 1517 1519 1521 1523 1525 1527 1529 1531 1533 1535 1537 1539 1541 1543 1545 1547 1549 1551 1553 1555 1557 1559 1561 1563 1565 1567 1569 1571 1573 1575 1577 1579 1581 1583 1585 1587 1589 1591 1593 1595 1597 1599 1601 1603 1605 1607 1609 1611 1613 1615 1617 1619 1621 1623 1625 1627 1629 1631 1633 1635 1637 1639 1641 1643 1645 1647 1649 1651 1653 1655 1657 1659 1661 1663 1665 1667 1669 1671 1673 1675 1677 1679 1681 1683 1685 1687 1689 1691 1693 1695 1697 1699 1701 1703 1705 1707 1709 1711 1713 1715 1717 1719 1721 1723 1725 1727 1729 1731 1733 1735 1737 1739 1741 1743 1745 1747 1749 1751 1753 1755 1757 1759 1761 1763 1765 1767 1769 1771 1773 1775 1777 1779 1781 1783 1785 1787 1789 1791 1793 1795 1797 1799 1801 1803 1805 1807 1809 1811 1813 1815 1817 1819 1821 1823 1825 1827 1829 1831 1833 1835 1837 1839 1841 1843 1845 1847 1849 1851 1853 1855 1857 1859 1861 1863 1865 1867 1869 1871 1873 1875 1877 1879 1881 1883 1885 1887 1889 1891 1893 1895 1897 1899 1901 1903 1905 1907 1909 1911 1913 1915 1917 1919 1921 1923 1925 1927 1929 1931

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人十至0 本原十

14



Figure 11: Excerpt from the *Elementary Reader of Sunuwar* showing example words beginning with LA and VA (from Mukhia, Mukhia, and Rapaca 2004: 40).

तालिका घ

किराँती-कॉइच ब्रे:समा लेखन नमूना ट्रान्सलिटरेसन सहित

ललमिच ममिबः
ləlmits məmibə
<ललमिच ममिबः>

गोम तनातन

gom tənātən
<गोम तनातन>

रागीआ ललमिच रवाकलि

rāgiā ləlmits rəwākəli
<रागीआ ललमिच रवाकलि>

रेउम तुषो यो ममइ

rəum tupšo yo məməi
<रेउम तुषो यो ममइ>

फश्यीम हेमशो यो ममइ

p^həsim həmsəyo məməi
<फश्यीम हेमशो यो ममइ>

नाम की'शो या ममइ

nām k'īšo yo məməi
<नाम की'शो या ममइ>

गोम तशोनु

gom təšonu
<गोम तशोनु>

मेको ललमिच रवा

meko ləlmits rəwā
<मेको ललमिच रवा>

बोइस्शोन् बाअबः

boisšon bāʔbə
<बोइस्शोन् बाअबः>

सी'शोन् बाअबः

s'īšon bāʔbə
<सी'शोन् बाअबः>

का पाच्चा ची'बपिकी

kā pāts ā ts'ibpiki
<का पाच्चा ची'बपिकी>

मेकेन् बेर्नमी

meken bernimi
<मेकेन् बेर्नमी>

मेकेन् ना थेर्नमी

meken nā thernimi

<मेकेन् ना थेर्नमी>

मेकेन् ड्ज़ूनिमी

meken dz'unimi
<मेकेन् ड्ज़ूनिमी>

मिनु

minu
<मिनु>

कुम्शो पश्यील् पाइनिमी

kumšo pəšyā šyil pāinimi
<कुम्शो पश्यील् पाइनिमी>

श्येण मेको रागीन्आ

šyeṇ meko rāgin ā
<श्येण मेको रागीन्आ>

वेक् पाच्चा

wek pāts ā
<वेक् पाच्चा>

त्स'िब अंकलि

ts'ib ānkəli
<ची:बआन्कलि>

आँके रागीमि गेनाइयो ललमिच ममिबः

āke rāgimi genāiyo ləlmits məmibə
<आँके रागीमि गेनाइयो ललमिच ममिबः>

(Source: Rapacha (2001a: 24))

Figure 12: Sunuwar phrases given in Jenticha, Latin, and Devanagari transliteration (adapted from Rāpacā 2009: 145–146).



Figure 13: An excerpt from a 2009 wall calendar in Jenticha published by the Sikkim Sunuwar Mukhia Koinchbu.



Figure 14: An excerpt from a 2010 wall calendar in Jenticha published by the Sikkim Sunuwar Mukhia Koinchbu.

**ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹**

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

A. Administrative

1. Title:	Proposal to Encode the Jenticha Script in ISO/IEC 10646
2. Requester's name:	<i>Script Encoding Initiative (SEI) / Anshuman Pandey (pandey@umich.edu)</i>
3. Requester type (Member body/Liaison/Individual contribution):	<i>Liaison contribution</i>
4. Submission date:	<i>2011-05-31</i>
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	<i>Yes</i>
(or) More information will be provided later:	

B. Technical – General

1. Choose one of the following:	
a. This proposal is for a new script (set of characters):	<i>Yes</i>
Proposed name of script:	<i>Jenticha</i>
b. The proposal is for addition of character(s) to an existing block:	
Name of the existing block:	
2. Number of characters in proposal:	<i>45</i>
3. Proposed category (select one from below - see section 2.2 of P&P document):	
A-Contemporary <input checked="" type="checkbox"/> B.1-Specialized (small collection) <input type="checkbox"/> B.2-Specialized (large collection) <input type="checkbox"/>	
C-Major extinct <input type="checkbox"/> D-Attested extinct <input type="checkbox"/> E-Minor extinct <input type="checkbox"/>	
F-Archaic Hieroglyphic or Ideographic <input type="checkbox"/> G-Obscure or questionable usage symbols <input type="checkbox"/>	
4. Is a repertoire including character names provided?	<i>Yes</i>
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?	<i>Yes</i>
b. Are the character shapes attached in a legible form suitable for review?	<i>Yes</i>
5. Fonts related:	
a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?	<i>Anshuman Pandey</i>
b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):	<i>Anshuman Pandey (pandey@umich.edu)</i>
6. References:	
a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?	<i>Yes</i>
b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?	<i>Yes</i>
7. Special encoding issues:	
Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?	<i>Yes</i>

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database (<http://www.unicode.org/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

¹ Form number: N3902-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? If YES explain	No
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? If YES, with whom? If YES, available relevant documents:	Yes Dr. Lal-Shyakarelu Rapacha See text of proposal
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Reference:	Yes Size of user community is unknown. Script is used for print and digital publications.
4. The context of use for the proposed characters (type of use; common or rare) Reference:	Common The Jenticha script is used for writing Sunuwar. See text of proposal for details.
5. Are the proposed characters in current use by the user community? If YES, where? Reference:	Yes Sikkim (India) and Nepal. See text of proposal for details.
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? If YES, is a rationale provided? If YES, reference:	No
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	Yes
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? If YES, is a rationale for its inclusion provided? If YES, reference:	No
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? If YES, is a rationale for its inclusion provided? If YES, reference:	No
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? If YES, is a rationale for its inclusion provided? If YES, reference:	Yes Yes See text of proposal.
11. Does the proposal include use of combining characters and/or use of composite sequences? If YES, is a rationale for such use provided? If YES, reference: Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? If YES, reference:	Yes Yes Combining signs
12. Does the proposal contain characters with any special properties such as control function or similar semantics? If YES, describe in detail (include attachment if necessary)	Yes Virama See text of proposal
13. Does the proposal contain any Ideographic compatibility characters? If YES, are the equivalent corresponding unified ideographic characters identified? If YES, reference:	No